

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

524,119
PCT/FR2003/002591



Applicant's or agent's file reference BR3503RM/PJ	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/002591	International filing date (day/month/year) 27 août 2003 (27.08.2003)	Priority date (day/month/year) 28 août 2002 (28.08.2002)
International Patent Classification (IPC) or national classification and IPC C22B 21/06, 9/05, B22D 41/42		
Applicant PECHINEY RHENALU		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 12 janvier 2004 (12.01.2004)	Date of completion of this report 12 October 2004 (12.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

PCT/FR2003/002591

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
 pages _____ 1-8 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____ 1-4 _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the drawings:
 pages _____ 1/2, 2/2 _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-14	YES
	Claims		NO
Inventive step (IS)	Claims	3-11	YES
	Claims	1, 2, 12-14	NO
Industrial applicability (IA)	Claims	1-14	YES
	Claims		NO

2. Citations and explanations

1. Reference is made to the following documents:

D1: US-A-5 846 479;

D2*: SU-A-86 31 88.

Document D2* was not cited in the international search report. A copy of said document is attached hereto.

2. Independent claims 1 and 12 relate, respectively, to an injection device and a tank comprising said injection device for the treatment of liquid metal, and define subject matter that is novel under the terms of PCT Article 33(2). Indeed, none of the prior art documents contains teaching relating to a device for injecting gas into a liquid metal, which device has a mobile means capable of unblocking the injection port.

It follows that the subject matter of dependent claims 2-11, 13 and 14 is also novel under the terms of PCT Article 33(2).

3. Claim 1 does not specify any concrete technical

features of the unblocking means, which is defined more in terms of the desired functions thereof. However, the description and the drawings (cf. figure 2) give the impression that these functions can only be carried out in a predetermined manner, and in this case, by using the technical means disclosed in claim 3. No other means is indicated.

As a result, claim 1 has not been defined clearly enough and does not contain all of the features deemed essential for the definition of the subject matter claimed. This is contrary to the requirements of PCT Article 6.

- 3.1 Moreover, the subject matter of claims 1, 2 and 12-14 does not involve an inventive step under the terms of PCT Article 33(3), for the following reasons:

Document D1 describes a device, a tank and a use such as those defined in claims 1, 2 and 12-14, except that said claims provide for a means capable of unblocking the nozzle port. The presence of a technical means of this kind is, nevertheless, considered to be obvious and essential given that a gas-injecting nozzle in direct communication with a liquid-metal bath is easily blocked and will, consequently, need to be unblocked from time to time.

What is more, document D2* (see the Derwent abstract and the figure) discloses a means of this kind in the context of unblocking a liquid-metal discharge nozzle (metal powder production). As a result, it appears to be normal and obvious for a person

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skilled in the art working with nozzles, which are in contact with liquid metal and are likely to become blocked, to provide, where necessary, for a means capable of unblocking a blocked nozzle.

4. Dependent claims 3-11 contain specific features which, in combination with the features of any one of the claims to which they refer, appear to define subject matter that fulfils the PCT requirement of inventive step (PCT Article 33(3)).